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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,643	01/27/2004	Kyle Gregoire	SHA-137	4618

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EXAMINER

SPAHN, GAY

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/766,643

Applicant(s)

GREGOIRE, KYLE

Examiner

Gay Ann Spahn

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 6,9,16,17 and 20-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8,10-15,18,19 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-26 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 27 January 2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

This application contains claims directed to the following patentably distinct species:

SPECIES I - Fig. 2;

SPECIES II - Fig. 3B;

SPECIES III - Fig. 4;

SPECIES IV - Fig. 5;

SPECIES V - Fig. 6;

SPECIES VI - Fig. 7;

SPECIES VII - Fig. 8;

SPECIES VIII - Fig. 9;

OR

SPECIES IX - Fig. 10.

The species are independent or distinct because:

SPECIES I (Fig. 2) is a plug and seal assembly (4), wherein the plug (10) has an annular radially-extending flange (18), an outer seal (12) surrounding the end of the annular radially-extending flange (18), and an inner seal (14) partially recessed in an inner annular surface (30) of the plug (10), the inner seal (14) extending into a clearance space (34) between the plug (10) and a tube (8);

SPECIES II (Fig. 3B) is a plug and seal assembly (304), wherein the plug (310) has an annular radially-extending flange (unnumbered), an outer seal (312) at the end of the annular radially-extending flange, and an inner seal (314) deformable to be completely recessed in an inner annular surface of the plug (310);

SPECIES III (Fig. 4) is a plug and seal assembly (40), wherein the plug (10) has an annular radially-extending flange (unnumbered), an outer seal (12) surrounding the end of the annular radially-extending flange, and an inner seal (14) attached to an inner annular surface (30) of the plug (10), the inner seal (14) extending into a clearance space between the plug (10) and a tube (8) and separated from a membrane (16) by a connecting means (42);

SPECIES IV (Fig. 5) is a plug and seal assembly (50), wherein the plug (10) has an annular radially-extending flange (18), an outer seal (52) comprised of first and second ring-type portions (54, 56) on the annular radially-extending flange (18), and an inner seal (14) attached to an inner annular surface of the plug (10), the inner seal (14) extending into a clearance space between the plug (10) and a tube (8);

SPECIES V (Fig. 6) is a plug and seal assembly (60), wherein the plug (10) has an annular radially-extending flange, an outer seal (12) surrounding the end of the annular radially-extending flange, and an O-ring seal (62) partially recessed in an outer annular surface of a tube (8), the O-ring seal (62) extending into a clearance space between the plug (10) and the tube (8);

SPECIES VI (Fig. 7) is a plug and seal assembly (70), wherein the plug (11) has an outer seal (72) surrounding the annular end surface of the plug (11) and comprised

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of an axial portion (74) and first and second radial seal portions (76, 78) such that the first radial seal portion (76) resides in a clearance space (84) between the component (6) and the plug (11) and the second radial seal portion (78) resides in a clearance space between the plug (11) and a tube (8);

SPECIES VII (Fig. 8) is a plug and seal assembly (90), wherein the plug (11) has an outer seal (72) surrounding the annular end surface of the plug (11) and an annular sleeve (92) extends between a component (6) and the plug (11) from membrane (16) to the outer seal (72);

SPECIES VIII (Fig. 9) is a plug and seal assembly (94), wherein the plug (11) has an outer seal (96) attached to an outer surface of the plug (11) near the bottom of the plug (11) so as to be between a component (6) and the plug (11) and an inner seal (98) attached to an inner surface of the plug (11) nearer to the top of the plug (11) so as to be between the plug (11) and a tube (8); and

SPECIES IX (Fig. 10) is a plug and seal assembly (99), wherein the plug has an outer seal surrounding the annular end surface of the plug.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims appear to be generic to all species of the plug and seal assembly.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim

is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

During a telephone conversation with Randall J. Knuth on 21 April 2006 a provisional election was made without traverse to prosecute the invention of Species I (Fig. 2), claims 1-5, 7, 8, 10-15, 18, 19 and 26. Affirmation of this election must be made by applicant in replying to this Office action. Claim 6 (Fig. 4), claim 9 (Fig. 5), claims 16 and 17 (Fig. 4), and claims 20-25 (Figs. 7-10) are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected species.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 27 January 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to because:

(1) Fig. 2, the outer seal (12), inner seal (14), and membrane (16) have the cross-hatching for metal material (i.e., thin diagonal lines - see the Manual of Patent Examining Procedure (MPEP) § 608.02(IX) entitled Drawing Symbols) which it is believed should be changed to elastomeric material (i.e., thin and thick diagonal lines similar to as is done in Fig. 10);

(2) Figs. 3A and 3B, the transmission housing block (306), tube (308), plug (310), and membrane (316) have the cross-hatching for metal material (i.e., thin diagonal lines) and the outer face seal (312) and inner tube seal (314) have the cross-hatching for rubber material (i.e., thick diagonal lines) and it is questioned if this is correct?;

(3) Fig. 4, the outer seal (12), connecting means (42), and membrane (16) have the cross-hatching for metal material (i.e., thin diagonal lines) and the inner O-ring seal

(14) has the cross-hatching for rubber material (i.e., thick diagonal lines) and it is questioned if this is correct?;

(4) Fig. 5, the outer seal (52 - both 1st and 2nd ring-type portions) and membrane (16) have the cross-hatching for metal material (i.e., thin diagonal lines) and the inner O-ring seal (14) has the cross-hatching for rubber material (i.e., thick diagonal lines) and it is questioned if this is correct?;

(5) Fig. 6, the outer seal (12) and membrane (16) have the cross-hatching for metal material (i.e., thin diagonal lines) and the O-ring seal (62) has the cross-hatching for rubber material (i.e., thick diagonal lines) and it is questioned if this is correct?;

(6) Fig. 6, the O-ring seal (62) is shown as indented into the wall of the tube (8) in the non-installed position shown at the bottom of the figure, but is not shown as indented into the walls of the tube (8) in the installed position shown in phantom in the middle of the figure which is incorrect since the O-ring seal (62) in the installed position should also be shown in phantom and shown indented into the wall of the tube;

(7) Fig. 6, there should either be an arrow showing the tube (8) going from the uninstalled position to the installed position or else there should be a bracket on one side of the figure to show that this is not two figures;

(8) Fig. 7, the seal (72) and membrane (16) have the cross-hatching for metal material (i.e., thin diagonal lines) and it is questioned if this is correct?;

(9) Fig. 8, the seal (72), sleeve (92), and membrane (16) have the cross-hatching for metal material (i.e., thin diagonal lines) and it is questioned if this is correct?;

(10) Fig. 9, the membrane (16) has the cross-hatching for metal material (i.e., thin diagonal lines) and the outer seal (96) and inner seal (98) have the cross-hatching for rubber material (i.e., thick diagonal lines) and it is questioned if this is correct?; and

(11) Fig. 10, the plug and seal combination (99) has the cross-hatching for synthetic resin or plastic material (i.e., thin and thick alternating diagonal lines) and it is questioned if this is correct?

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the

(1) “plug element and the seal being formed as a single-piece uni-body construction” as specifically recited in claim 10, and

(2) “single-piece uni-body construction being formed on an elastomeric material” as specifically recited in claim 11

must be shown (**particularly, with respect to the elected species of Fig. 2**) or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

(1) page 1, line 3, the words "of any" should be changed to --to--, after "States", the word --Provisional Patent-- should be inserted, and all three words of "application serial no." should be capitalized;

(2) page 5, line 19, the word "illustrative" should be changed to --illustrate--; and

(3) page 17, line 7, the second occurrence of reference numeral "54" should be changed to --56--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 7, 10, 12, 13, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis (U.S. Patent No. 5,025,683).

As to claim 1, Lewis discloses a plug assembly (10) at an interface between a first component and a second component (transmission case 26), said plug assembly (10) comprising:

a plug element (12) comprising a plug body having a proximal end (22) and a distal end (18), said plug element (12) further comprising a generally radially extending

flange (24) at the proximal end (22) of the plug body, the plug body defining an axial channel formed therethrough; and

a seal (14) joined to the plug element flange (24), the seal (14) extending at least axially inward toward the distal end (18) of the plug body and axially outward away from the distal end of the plug body.

It is the examiner's position that the seal element (14) of Lewis as shown in both Figs. 1 and 2 extends axially inwardly toward the distal end (18) of the plug element (12) via the portion of the seal element (14) that is adjacent the end edge of the radially extending flange (24).

As to claim 2, Lewis discloses the plug assembly of claim 1 as discussed above, and Lewis also discloses the seal (14) being configured to extend annularly about a radially outermost surface of the plug element flange (24).

As to claim 7, Lewis discloses the plug assembly of claim 1 as discussed above, and Lewis also discloses that the seal (14) is mechanically bonded to the plug element flange (24).

As to claim 10, Lewis discloses the plug assembly of claim 1 as discussed above, and Lewis also discloses that the plug element (12) and the seal (14) are formed as a single-piece uni-body construction.

The examiner notes that once the seal (14) is bonded to the plug element (12) as stated at col. 2, lines 8-9 of Lewis, the plug assembly (10) is considered to be a single-piece uni-body construction. See *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965) (A claim to a fluid transporting vehicle was rejected as obvious over a

prior art reference which differed from the prior art in claiming a brake drum integral with a clamping means, whereas the brake disc and clamp of the prior art comprise several parts rigidly secured together as a single unit. The court affirmed the rejection holding, among other reasons, "that the use of a one piece construction instead of the structure disclosed in [the prior art] would be merely a matter of obvious engineering choice.").

As to claim 12, Lewis discloses the plug assembly of claim 1 as discussed above, and Lewis also discloses that the first component and the second component constituting automatic transmission structures (transmission case 26).

As to claim 13, Lewis discloses a plug assembly (10) at an interface between a first component and a second component (transmission case 26), said plug assembly (10) comprising:

a plug element (12) having a proximal end (22) and a distal end (18) and an axial channel defined therebetween, said plug element (12) comprising a radially extending flange (24) at the proximal end (22) thereof; and

an outer seal (14) annularly disposed about the plug element (12), the outer seal (14) being joined to the plug element flange (24), the outer seal (14) at least extending in axially opposite directions relative to the plug element flange (24).

It is the examiner's position that the seal element (14) of Lewis as shown in both Figs. 1 and 2 extends axially inwardly toward the distal end (18) of the plug element (12) via the portion of the seal element (14) that is adjacent the end edge of the radially extending flange (24).

As to claim 18, Lewis discloses the plug assembly of claim 13 as discussed above, and Lewis also discloses a means to mechanically bond (see col. 2, lines 8-9, wherein it states that "a seal means bonded to said flange of said cup plug element") the outer seal (14) to the plug element flange (24).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 8, 14, 15, 19, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis (U.S. Patent No. 5,025,683) in view of Hawley et al. (U.S. Patent No. 6,029,981).

As to claim 3, Lewis discloses the plug assembly of claim 1 as discussed above.

However, Lewis fails to explicitly disclose an annular seal disposed within the axial channel of the plug element.

Hawley et al. disclose a tube plug seal (50 in Fig. 5) having an annular seal (64) disposed within the axial channel of the plug element.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the plug assembly of Lewis by including an annular seal disposed within the axial channel of the plug element as taught by Hawley et al. in order

to be able to seal around a fluid conveyance tube inserted into the axial channel of the plug element for directing fluid to the bushing.

As to claim 4, Lewis in view of Hawley et al. discloses the plug assembly of claim 3 as discussed above, and Hawley et al. also discloses that the annular seal (64) further includes an O-ring seal.

As to claim 5, Lewis in view of Hawley et al. discloses the plug assembly of claim 3 as discussed above, and Lewis also discloses a membrane element (top of plug element 12) joined to the plug element (12) at the distal end (18) thereof, the membrane element (top of 12) extending over an axial orifice of the plug element (12).

As to claim 8, Lewis discloses the plug assembly of claim 7 as discussed above, and Lewis also discloses a membrane element (top of plug element 12) joined to the plug element (12) at the distal end (18) thereof, the membrane element (top of 12) extending over an axial orifice of the plug element (12).

However, Lewis fails to explicitly disclose an inner annular seal disposed within the axial channel of the plug body.

Hawley et al. disclose a tube plug seal (50 in Fig. 5) having an annular seal (64) disposed within the axial channel of the plug element.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the plug assembly of Lewis by including a annular seal disposed within the axial channel of the plug element as taught by Hawley et al. in order to be able to seal around a fluid conveyance tube inserted into the axial channel of the plug element for directing fluid to the bushing.

As to claim 14, Lewis discloses the plug assembly of claim 13 as discussed above.

However, Lewis fails to explicitly disclose an annular inner seal disposed within the axial channel of the plug element.

Hawley et al. disclose a tube plug seal (50 in Fig. 5) having an annular seal (64) disposed within the axial channel of the plug element.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the plug assembly of Lewis by including an annular seal disposed within the axial channel of the plug element as taught by Hawley et al. in order to be able to seal around a fluid conveyance tube inserted into the axial channel of the plug element for directing fluid to the bushing.

As to claim 15, Lewis in view of Hawley et al. disclose the plug assembly of claim 14 as discussed above, and Lewis also discloses that a membrane element (top of 12) joined to the plug element (12) at the distal end (18) thereof, the membrane element (top of 12) extending over an axial orifice of the plug element (12).

As to claim 19, Lewis discloses the plug assembly of claim 18 as discussed above, and Lewis also discloses a membrane element (top of plug element 12) joined to the plug element (12) at the distal end (18) thereof, the membrane element (top of 12) spanning an axial orifice of the plug element (12).

However, Lewis fails to explicitly disclose an inner annular seal disposed within the axial channel of the plug body.

Hawley et al. disclose a tube plug seal (50 in Fig. 5) having an annular seal (64) disposed within the axial channel of the plug element.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the plug assembly of Lewis by including a annular seal disposed within the axial channel of the plug element as taught by Hawley et al. in order to be able to seal around a fluid conveyance tube inserted into the axial channel of the plug element for directing fluid to the bushing.

As to claim 26, Lewis discloses an apparatus, comprising:

a plug element (12) having a proximal end (22) and a distal end (18), the plug element (12) further having an inner annular surface defining an axial channel extending between the proximal end (22) and the distal end (18) of the plug element (12), said plug element (12) comprising a radially extending flange (24) at the proximal end (22) thereof; and

a first seal (14) annularly disposed about the plug element (12), the seal (14) being joined to the plug element flange (24), the seal (14) at least extending in axially opposite directions relative to the plug element flange (24).

However, Lewis fails to explicitly disclose a tube received by the plug element through the axial channel thereof, and a second seal annularly disposed about the tube, the second seal in press fit engagement with the plug element at the inner annular surface thereof.

Hawley et al. discloses a tube plug seal (Fig. 5) wherein a tube (28) received by the plug element (50) through the axial channel thereof, and a second seal (64)

annularly disposed about the tube (28), the second seal (64) in press fit engagement with the plug element (50) at the inner annular surface thereof.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the plug assembly of Lewis by including a tube received by the plug element through the axial channel thereof, and a second seal annularly disposed about the tube, the second seal in press fit engagement with the plug element at the inner annular surface thereof as taught by Hawley et al. in order to be able to seal around a fluid conveyance tube inserted into the axial channel of the plug element for directing fluid to the bushing.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis (U.S. Patent No. 5,025,683) in view of Pohar (U.S. Patent No. 6,082,410).

As to claim 11, Lewis discloses the plug assembly of claim 10 as discussed above.

However, Lewis fails to explicitly disclose that the single-piece uni-body construction is formed of an elastomeric material.

Pohar discloses a single-piece uni-body plug and seal (annular bead integrally formed on collar to sealingly engage inner peripheral surface of port) assembly which is formed of a resilient elastomeric material (see Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the plug assembly of Lewis by making the single-piece uni-body construction of the plug and seal assembly be of an elastomeric material as

taught by Hawley et al. in order to be able to easily form the plug and seal assembly in a simple molding step.

Conclusion

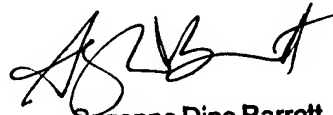
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Various configurations of plug and seal assemblies are shown in: U.S. Patent No. 4,945,951 to Beamer; U.S. Patent No. 4,902,043 to Zillig et al.; U.S. Patent No. 4,746,023 to Belter; and U.S. Patent No. 2,244,311 to Nee et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gay Ann Spahn whose telephone number is (571)-272-7731. The examiner can normally be reached on Monday through Thursday, 8:30 am to 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

^{GAS}
Gay Ann Spahn, Patent Examiner
April 24, 2006


Suzanne Dino Barrett
Primary Examiner